

# INTERNATIONAL SUGAR RESEARCH FOUNDATION, INC.

7316 Wisconsin Avenue, Bethesda, Maryland 20014 USA

## DEVELOPMENTS IN BRIEF

### ISRF SUPPORT OF HEALTH RESEARCH AND INTERNATIONAL SYMPOSIA

On the occasion of the Annual Meeting of Members, September 1975, in Montreal, Canada, Dr. Errol B. Marliss, Clinical Science Division, University of Toronto, gave a luncheon address entitled "ISRF support of health research; a diabetologist's view of the cost/benefit ratio". The essential points made by Dr. Marliss are presented below.

As it is always nice to receive positive feedback, a review of the Eighth International Sugar Research Symposium Report, "Is the risk of becoming diabetic affected by sugar consumption?", which appeared in the scientific journal, Acta Diabetologica Latina, Vol. XII, No. 3-4, 1975, is also reproduced below. Copies of this report are still available from the Foundation upon request.

#### "A Diabetologist's View of the Cost/Benefit Ratio"

- (1) The role of sucrose in human diabetes is the subject of very considerable discussion and controversy among diabetologists.
- (2) The existence of such controversy is evidence for the undeniable fact that its role has not been unequivocally established.
- (3) Vocal investigators make very "newsworthy" public attacks upon sucrose, which may well be only partly founded, or totally unfounded.
- (4) It is in the best interests of the industry to establish definitively what contribution sucrose can and does make to the course of diabetes - and other diseases - to place it in context.
- (5) This will require the support of well-designed research programs.
- (6) Such research programs might produce an answer that sucrose is bad in certain individuals, and if well designed, may allow for the recommendation of specific amounts to those individuals .
- (7) Such results if obtained should be publicized by the industry as a direct moral obligation to the public.
- (8) By so doing, the industry will re-establish its credibility in respect to a corporate "conscience"; namely, that it is conceived that the consumption of the product be in appropriate amounts by each individual according to his health.

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- (9) This is very unlikely to decrease sugar consumption, and on the contrary, will defuse the damaging publicity based upon emotional rather than factual statements.
- (10) In order to obtain the correct answers, the kind of research which should be supported is at a very basic level, in which a comprehensive examination of all metabolic effects of sucrose is attempted.
- (11) This is in distinction to research of lower order, in which the focus is on the effects of elimination of sucrose in several afflicted individuals, especially those with the complications of the disease.
- (12) As to cost/benefit of supporting research looked at from the viewpoint of the industry, the benefit should be quantified not in terms of an increase in sugar sales, but in terms of establishing what is safe and appropriate for each individual to consume according to his health.
- (13) From the investigator's viewpoint, he must assure that the experimental design is such as to allow for clear interpretations, rather than to further cloud the issues. It is only in this way that he can justify the investment of ISRF funds in his research.
- (14) The foregoing could well be expensive in terms of the research investment, and should be undertaken in a sufficiently comprehensive way as to produce results. A gesture rather than full support is unlikely to produce the sought-after answers.
- (15) Hence, this type of support, with an analogous approach in other areas such as obesity, atherosclerosis, and dental caries should be high among the priorities of the ISRF.

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HILLEBRAND S. S. (Ed.): *Is the Risk of Becoming Diabetic Affected by Sugar Consumption?* - International Sugar Research Foundation, Bethesda, 1973, 84 pp.

Sugar consumption has come under fire in recent years as being one of the main culprits in the pathogenesis of atherosclerosis and diabetes (Yudkin, VI Conf. Conference, 1972). It is therefore much to be welcomed that the International Sugar Research Foundation devoted its 1974 Symposium to this question.

In his introductory remarks, the chairman K. M. West briefly summarized the general nature of diabetes, since only a few of those present were physicians.

Ian A. M. Prior, Wellington, New Zealand, reported on epidemiological studies on various populations differing in their dietary habits, racial make-up and economic conditions. It was found that total caloric intake and the obesity that may follow on excess caloric intake are key factors in the development of diabetes. There are populations with a high incidence of diabetes whose diet contains large amounts of fat and only little sugar. A study at present under way is intended to establish whether island populations experience a change in their prevalence of diabetes when they migrate to New Zealand towns where they adopt European-type dietary habits increasing their sugar intake from 18 to 70 or 80 g/die. In various epidemiological investigations performed in Britain, Keen did not find evidence of a link between sugar intake and diabetes. If sucrose is involved in the pathogenesis of diabetes either directly or via the production of obesity, this is likely to occur only in individuals predisposed to the disease.

G. M. Bray, reporting on the Conference of the Fogarty Center on Obesity, addressed himself mainly to factors liable to induce obesity. He came to the conclusion that fat subjects are more susceptible to environmental factors connected with food (tastiness, plenty, influences distracting attention from eating, e.g. the television set in the kitchen). As a result of these researches, behaviour modification is now being applied to the treatment of obesity and has proved more effective in combination with diet than diet alone.

In an epidemiologic study of thirteen populations of Asia and the Western Hemisphere, West found excess weight to be the factor most strongly and consistently associated with the prevalence of diabetes. The correlation to sugar consumption is at best doubtful, and if sugar plays a part in the pathogenesis of diabetes, this is likely to be only an indirect one in that large sugar intake is liable to favor obesity.

From his investigation on the influence of high sucrose diets (80% of total calorie intake) Anderson could not find evidence that a diet of this kind impairs glucose tolerance; on the contrary, in the 9 subjects who took this diet for 9 weeks, oral and intravenous glucose tolerance were improved.

Summarizing the current views of the American Diabetes Association Committee on Food and Nutrition, R. A. Atky pointed out that there is little evidence to support the view that carbohydrate restriction is particularly beneficial to diabetics. It should now be recognized that all parameters, especially those relating to fat metabolism, need to be periodically assessed in diabetics.

J. Christophe reported on experiments with high sucrose and high fructose diets in non obese and obese hyperglycemic BB Labor mice, the two groups reacting differently to the diets.

In the final discussion, all those present agreed that a large amount of research is still necessary before a firm conclusion can be arrived at, and various suggestions were made about future research.

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